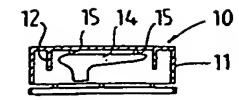

FIG. 1.

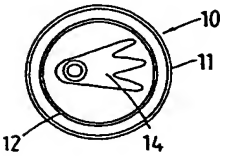

FIG. 2.

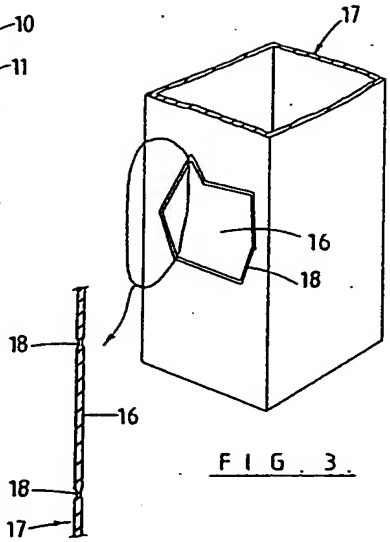

FIG. 3.

AU9650594

(12) PATENT ABSTRACT (11) Document No. AU-A-50594/96
(19) AUSTRALIAN PATENT OFFICE

(54) Title
AUTOMATIC FREQUENCY CONTROL CIRCUIT APPLICABLE TO A MOBILE COMMUNICATION SYSTEM

International Patent Classification(s)
(51)[6] H04B 007/26 H03L 007/00 H04Q 007/32

(21) Application No. : 50594/96 (22) Application Date : 10.04.96

(30) Priority Data

(31) Number (32) Date (33) Country
7-110040 11.04.95 JP JAPAN

(43) Publication Date : 24.10.96

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An automatic frequency control circuit includes an quadrature demodulation unit (10) for creating an in-phase signal (I) and an antiphase signal (Q) by quadrature-demodulating a Gaussian Minimum Shiftkeying signal and supplying an electric field strength signal (RSSI) exhibiting an electric field strength of the Gaussian Minimum Shiftkeying signal as well as the created in-phase and antiphase signals (I,Q). A quality judgment unit (30) judges the quality of the Gaussian Minimum Shiftkeying signal and creates automatic frequency-controlling data (S3) indicating a compensation amount in accordance with the obtained quality signal. A converter converts into digital signals the in-phase signal (I), antiphase signal (Q) and electric field strength signal (RSSI) supplied from the quadrature demodulation unit (10) and converts the automatic frequency-controlling data (S3) into an analog signal. A temperature compensated crystal oscillation circuit (41) compensates the frequency of the GMSK signal on the basis of the compensation amount indicated by the automatic frequency-controlling data converted into an analog signal (S4) by the converter (20).

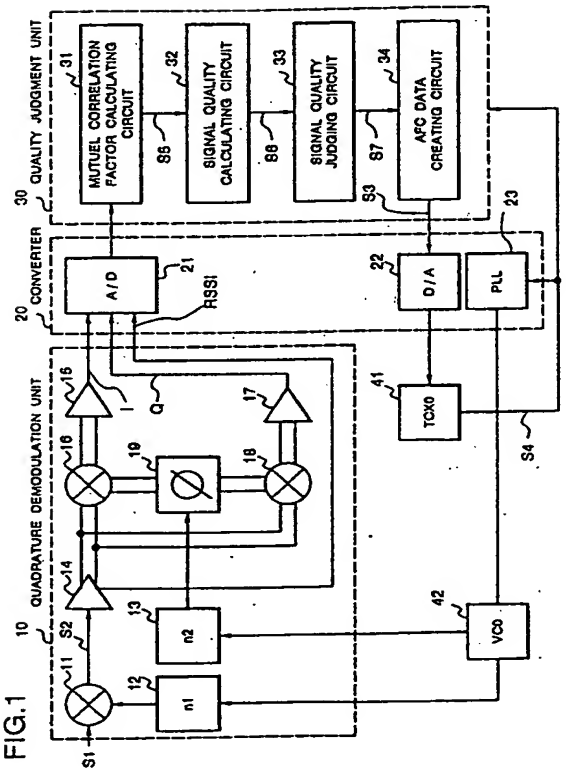

FIG.1

AU9650595

(12) PATENT ABSTRACT (11) Document No. AU-A-50595/96
(19) AUSTRALIAN PATENT OFFICE

(54) Title
PORTABLE RADIO TELEPHONE DEVICE

International Patent Classification(s)
(51)[6] H04M 001/60 H04M 001/19 H04Q 007/32

(21) Application No. : 50595/96 (22) Application Date : 10.04.96

(30) Priority Data

(31) Number (32) Date (33) Country
7-85137 11.04.95 JP JAPAN

(43) Publication Date : 24.10.96

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A portable radio telephone device has a main telephone unit (5) and a microphone-speaker/headphone set (3) connected to the main telephone unit by a curled cord cable (4). The microphone-speaker/headphone set (3) includes a transmitter amplifier (8) and a receiver amplifier (9) which function as differential amplifiers for amplifying the difference between an AC component of a voice signal ground line connected to the main telephone unit and the transmitted and received voice signals, respectively. Variations (AC component) in the ground level of the main telephone unit (5) are added to the voice signals to cancel noise produced in the voice signals even when periodic level variations are developed between the ground levels of the microphone-speaker/headphone set (3) and the main telephone unit (5).

CLAIM

1. A portable radio telephone device comprising:

a main telephone unit having a radio transmitter and receiver; and

a microphone-speaker/headphone set connected to said main telephone unit by a curled cord cable;

said microphone-speaker/headphone set comprising:

a power source connected to a car battery for supplying electric energy to said main telephone unit;

../2

(12) PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. AU 199650594 B2
(10) Patent No. 703376

(54) Title
Automatic frequency control circuit applicable to a mobile communication system

(51)[6] International Patent Classification(s)
H04B 007/26 H04Q 007/32
H03L 007/00

(21) Application No: 199650594 (22) Application Date: 1996 .04 .10

(30) Priority Data

(31) Number	(32) Date	(33) Country
7-110040	1995 .04 .11	JP

(43) Publication Date : 1996 .10 .24
(43) Publication Journal Date : 1996 .10 .24
(44) Accepted Journal Date : 1999 .03 .25

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(56) Related Art
US 5633898
US 5557643
US 5495506